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NIPE

SYSTEMS ANALYSIS STAFF

PROSPECTUS: FY 68

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[redacted]

Assistant for Systems Analysis
to the Deputy DCI for
National Intelligence Programs Evaluation

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

NIPE

SYSTEMS ANALYSIS PROSPECTUS - FY 68

I. OBJECTIVE: Provide the requisite analysis, evaluations, and advice in support of DCI decisions involving collection system development, deployment, and operation.

II. ESSENTIAL ELEMENTS:

A. Provide timely technical and analytical support to the DCI on decisions to be placed before USIB and EXCOM.

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B. Establish the NIPE Systems Analysis Staff as a respected leader in the application of operations research and systems analysis in the intelligence community. The NIPE/SAS will strive to be a focal point for assisting and advising the system analysis staffs of various agencies in order to foster the efficient conduct of analytical efforts in the community. It is anticipated that through this work and the conscientious efforts of those already involved in planning, programming, and budgeting

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

that the intelligence community will take a significant step toward the efficient allocation of its resources.

C. The NIPE/SAS will perform systems analysis and cost-effectiveness studies of the community-wide photographic intelligence, COMINT, and ELINT efforts. These studies will be broadly based and should involve cognizance of the pertinent members of the intelligence community. An example of a potentially valuable "inter-community" study is our current ICBM Study. Candidate problems which can make truly significant contributions in the future involve SIGINT collection systems (satellite and peripheral ground and air), ABM intelligence goals, and photographic intelligence data base requirements.

D. The NIPE/SAS will suggest studies to various organizations (i.e., DIA, NSA, CIA, and NRO) which will, ultimately, better prepare them to make useful recommendations to the DCI. An example of a study which should have a significant

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Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

E. The NIPE/SAS will continue to develop techniques and methodologies for evaluating national intelligence requirements and the means of their fulfillment. It is anticipated that these techniques will ultimately provide the DCI and the intelligence community with a consistent tool for evaluating the impact of various decisions. We will continue to use and perfect the war game as a means for explicitly measuring the value of intelligence. It is considered that significant benefit can result,

[redacted] 25X1

indications role and we will continue in our studies to establish this concept. It is anticipated that engagement analysis can be used to evaluate the importance of ground force intelligence and we intend to establish the utility of this concept. We also consider that Target Oriented Displays can be of great value in the evaluation of national intelligence programs and we hope that our contribution will assure an even broader utility.

F. The DCI/NIPE Systems Analysis Staff will continue to furnish technical advice and consultation on methodologies of systems analysis and operations research to the USIB and to

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

USIB committees. During the previous year we have made the following contributions:

1. Application of sampling techniques to the development of photographic coverage requirements for COMOR.

2. Evaluation of photographic coverage requirement and their impact on launch rates and schedules for COMOR.

3. SIGINT Satellite Cost-Effectiveness Task Force - COMOR.

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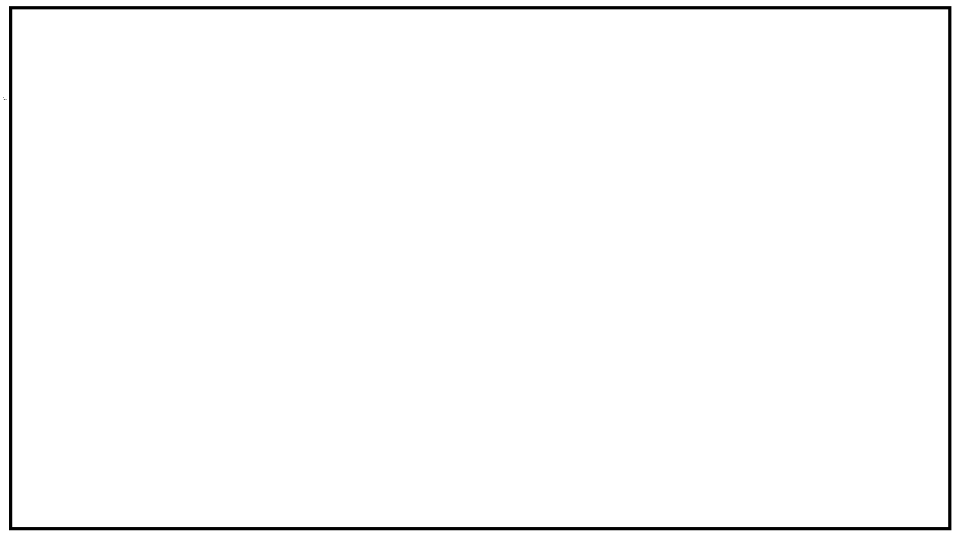

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

G. The DCI/NIPE Systems Analysis Staff will, as deemed appropriate, be prepared to participate in joint BOB, OSD, DIA, NSA, or NRO system analysis exercises. Examples of

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previous performance are [redacted] and NASM 156 Task Force.

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

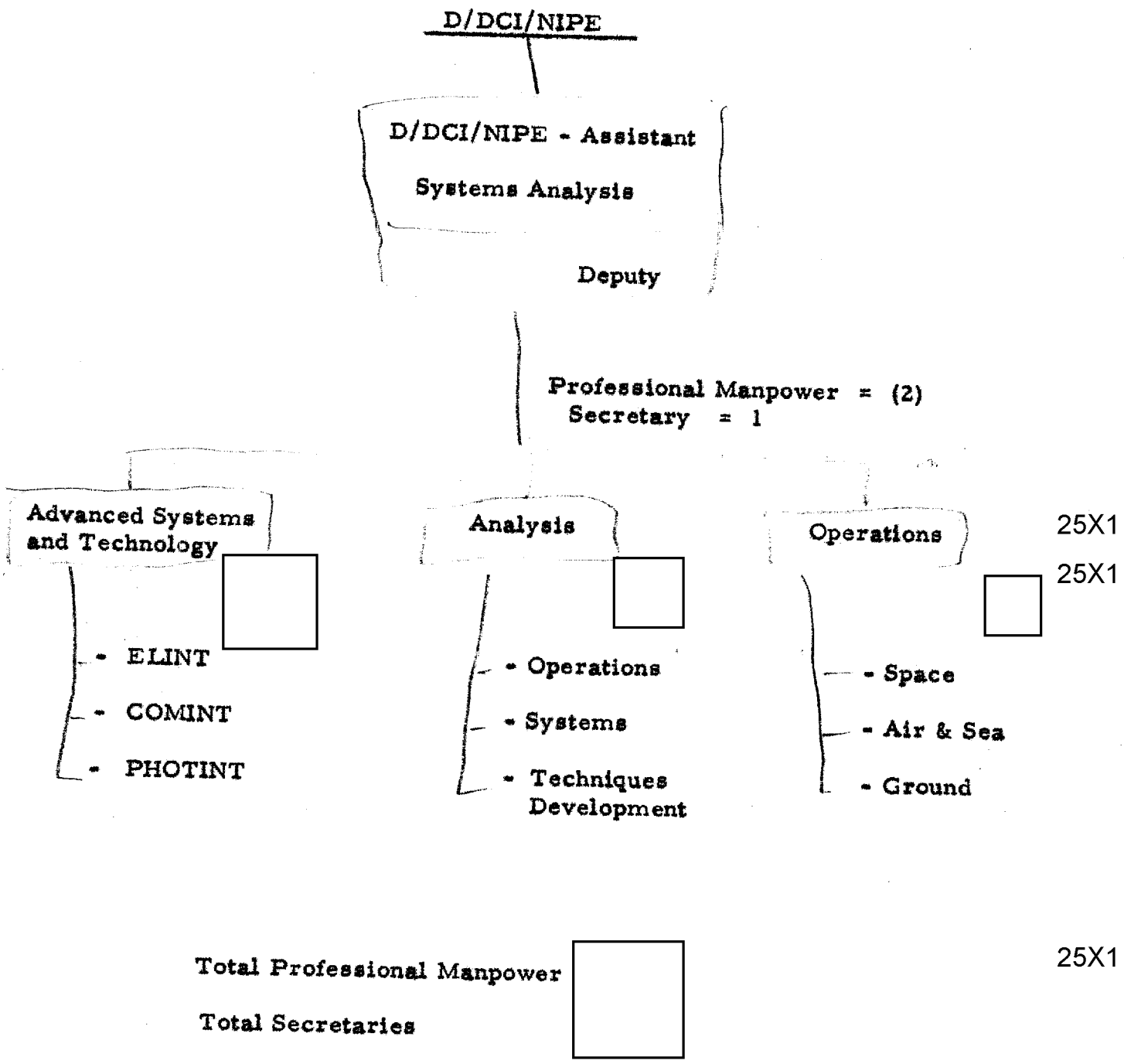
First Draft

III. ORGANIZATIONAL AND PROGRAMMATIC REQUIREMENTS

The objectives outlined in Section II ESSENTIAL ELEMENTS of this paper imply certain specific tasks and organizational goals. To accomplish the stated objectives several resources will be required. This section of our prospectus will address the programmatic aspects of the NIPE/SAS FY 68 objectives and it will present a realistic assessment of the ultimate NIPE/SAS (FY 70) requirements. It has become apparent, during the FY 67 period, that to perform a competent and timely service in the area of system analysis for the DCI it will be necessary to expand the size of the NIPE/Systems Analysis Staff. This office must be prepared to perform creditable analysis of a broad spectrum of future collection systems; we must be prepared to produce good studies of various collection techniques and requirements; and, we should, on a continuing basis, develop techniques to realistically measure the performance, cost/effectiveness, and value of all technical collection efforts. It is with these considerations that we projected the ultimate NIPE/Systems Analysis Staff organizational structure and manning level should be approximately as follows:

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9



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Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

This organization would operate characteristically as follows:

ASA/D/DCI/NIPE - Perform essentially as currently required; but, with more emphasis on representing Deputy DCI/NIPE to USIB, on USIB committees and on an inter-agency basis for matters concerning systems analysis.

ASA/Deputy - Represent the ASA on specified USIB committees, and working groups, responsible for directing staff groups and responsible for all work contracted with industry or consultants.

Advanced Systems and Technology Group - Cognizant of capabilities and limitations of all ELINT, COMINT, and PHOTINT systems currently in operation or development. Capable of preparing first order conceptual designs of new systems implied by new collection requirement or assessing the ability of existing systems to accomplish these same objectives.

Analysis - Conduct performance, and cost/effectiveness evaluation of various collection systems. Perform implications studies of various requirements to establish their practicality from a cost and scheduling point of view. Conduct studies to establish the relative value of various types of intelligence (ICBM, Tactical, Air, Ground Force, etc.).

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

Operations - Conduct studies of the effectiveness of various modes of collection. Perform trade studies of mode versus mode collection of the same intelligence (Peripheral Ground versus Satellite ELINT Collection, etc.). Measure the adequacy of various schedules (launch, flight, etc.) to eventually fulfill intelligence requirements.

The organization shown above is idealistic and it is recognized that it probably could not be implemented before the FY 69-70 time period. However, it is considered that this organization represents a most effective means for fulfilling the DCI-NIPE systems analysis requirements. Therefore, the NIPE/SAS FY 68 requirements are presented as simply a step toward our eventual posture. Furthermore, it is believed that actual staff sizing requests should be based on the organization shown above rather than our intermediate FY 68 requirements.

In order that the NIPE/SAS may perform the functions summarized in Section II during FY 68 the following programmatic requirements should be fulfilled:

A. PERSONNEL

1. Professional - The staff of scientific and technical personnel should increase to [redacted] professionals. 25X1

The DD/S&T personnel currently assigned to the NIPE/SAS

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

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represent a group of analysts experienced in the performance of duties closely related to the tasks outlined in Section II. It is considered that these personnel have been invaluable in the conduct of the NIPE/SAS FY 67 efforts and they should be formally transferred to the NIPE/SAS.

25X1A [redacted] will also be a welcome member to the staff and it is believed he will make a significant contribution both in analysis and in the development of a stronger working relationship with the DOD. These personnel will bring the manning level to a total of [redacted] and it 25X1 would be desirable to hire one additional man (engineering or scientific background) plus experience in aero-space projects.

2. Consultants - Since we realize that it is probably impossible to completely fulfill the ideal NIPE/SAS manning level, it is considered that we should continue our current contract with

25X1A [redacted] should be funded to cover approximately 40 percent utilization of his time by NIPE/SAS.

It is understood that the NIPE will enter into a contract

25X1A to [redacted] for additional technical support. This is considered to be useful and it is anticipated that SAS could constructively use

25X1 approximately [redacted] man-years of scientific and technical support.

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

3. Secretarial - The secretarial workload has increased significantly during FY 67 and with the increase in manpower and tasks in FY 68 it is necessary to increase by one (1) the number of secretaries supporting NIPE/SAS. This will provide [ ] secretaries to support [ ] professionals. 25X1 25X1

B. TECHNICAL SUPPORT

1. Computer Services - In-house utilization of the war game will increase during FY 68. Computer simulation satellite ground swath will involve additional computer requirements. Computer routines to analyze the utility [ ] will require increased computer operations. It is estimated that NIPE/SAS will require approximately 130 hours of computer times. This requirement has been generally a review with the Office of Computer Services, DD/S&T, and there is no reason to believe that it will not be fulfilled. 25X1

2. Information - NIPE/SAS will continue to require historical data describing the performance of various collection systems. During FY 67 these data have been available from NSA, NPIC, CGS, and USIB committees and there is no reason to believe that it will not be available as required in FY 68.

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

3. Contracted Support - Due to the low NIPE/SAS FY 68 manpower requirements, it will be necessary to do a limited amount of methodology development work with industry and/or educational institutions. The following activity is anticipated:

a. Continued development of exchange modeling as a technique for measuring the value of intelligence and as a method for performing intelligence versus force trade offs. This work will be with the [redacted] and will involve approximately six (6) man-years of professional efforts ($200,000). 25X1A

b. Development of tactical war gaming as a method for measuring the influence of ground force intelligence. A reasonably effective study can be conducted [redacted] 25X1

25X1 [redacted]

c. Generalized satellite systems and orbital characteristics studies to determine analytical expressions of systems peformance.

25X1 [redacted] 25X1

This requirement could be fulfilled with the support of the future contract with [redacted] 25X1A Corporation.

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

Approved For Release 2005/11/23 : CIA-RDP80B01138A000100030011-9

C. ADMINISTRATIVE

1. Travel - In order that we may assure effective management of our contracted efforts we should program for at least two (2) man-trips per two-months per contract. This would require approximately [redacted] In keeping 25X1
with informal professional standards followed throughout government and industry, each professional employee should have the opportunity to attend at least one, perhaps two, scientific or technical seminars
25X1 per year [redacted] Thus, a rough estimate of the NIPE/SAS domestic travel requires approximately [redacted] 25X1

It is possible that on some of the NIPE/SAS studies (periphal ground site collection system effectiveness for example) that it will be

[redacted] 25X1

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